

Remarks/Arguments

In this Response, no claims have been amended, added or cancelled. Thus, claims 1-11 and 22-45 are currently pending.

Finality of Office Action is Premature

Applicants respectfully submit that the finality of the office action dated 09/20/06 is premature. The MPEP provides that a second office action on the merit can be made final, “except where the Examiner introduces a new ground of rejection that is neither necessitated by Applicant’s amendment of the claims or based on information submitted in an information disclosure statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p).” (MPEP §706.7(a)).

In rejecting claims 1, 2, 8, 23, 24, 25, 31, 35, 36, 42, the Examiner has introduced a new ground of rejection – Pothapragada et al (USPN 6,442,682, “Pothapragada”). Applicants respectfully submit that the new ground of rejection was not based on information submitted in an information statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p). Further, the new ground of rejection was also not necessitated by Applicants’ amendment of the claims.

Specifically, the Examiner has used Pothapragada to teach a limitation of “number of delayed allocated blocks for the file,” as recited in independent claims 1, 24 and 35. (Office Action dated 09/20/06, p. 3, ¶5). Applicants respectfully submit that the limitation of “number of delayed allocated blocks for the file,” was present in the claims 1, 24 and 35 prior to the Applicants’ response dated 07/17/06 and was not amended in that response. Therefore, the Applicants made no amendments that necessitated the new ground of rejection.

The Examiner has also used Pothapragada to teach a limitation of “wherein the file system uses a write anywhere file system layout,” as recited in claims 2, 25, and 36. (Office Action dated 09/20/06, p. 3, ¶5). Applicants respectfully submit that the limitation of “wherein the file system uses a write anywhere file system layout,” was present in the claims 2, 25, and 36 prior to the Applicants’ response dated 07/17/06 and was not amended in that response. Therefore, the Applicants made no amendments that necessitated the new ground of rejection.

The Examiner has also used Pothapragada to teach a limitation of “a number of cached unallocated blocks,” as recited in claims 8, 31 and 42. (Office Action dated 09/20/06, p. 3, ¶5). Applicants respectfully submit that the limitation of “wherein the file system uses a write anywhere file system layout,” was present in the claims 8, 31 and 42 prior to the Applicants’ response dated 07/17/06 and was not amended in that response. Therefore, the Applicants made no amendments that necessitated the new ground of rejection.

In rejecting claims 3, 26 and 37, the Examiner has introduced a new ground of rejection – Keller et al. (USPN 6,473,849, “Keller”). Applicants respectfully submit that the new ground of rejection was not based on information submitted in an information statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p). Further, the new ground of rejection was also not necessitated by Applicants’ amendment of the claims.

The Examiner has used Keller to teach a limitation of “wherein the file operation that signals the reservation operation is a zero length write request,” as recited in claims 3, 26 and 37. (Office Action dated 09/20/06, p. 6, ¶6). Applicants respectfully submit that the limitation of “wherein the file operation that signals the reservation operation is a zero length write request,” was present in the claims 3, 26 and 37 prior to the Applicants’ response dated 07/17/06

and was not amended in that response. Therefore, the Applicants made no amendments that necessitated the new ground of rejection.

In rejecting claims 5, 28, and 39, the Examiner has introduced a new ground of rejection – Bereznyi et al. (USPN 6,453,404, “Bereznyi”). Applicants respectfully submit that the new ground of rejection was not based on information submitted in an information statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p). Further, the new ground of rejection was also not necessitated by Applicants’ amendment of the claims.

The Examiner has used Bereznyi to teach a limitation of “determining a total number of direct and indirect blocks needed to accommodate the file size,” as recited in claims 5, 28, and 39. (Office Action dated 09/20/06, p. 6, ¶7). Applicants respectfully submit that the limitation of “determining a total number of direct and indirect blocks needed to accommodate the file size,” was present in the claims 5, 28, and 39 prior to the Applicants’ response dated 07/17/06 and was not amended in that response. Therefore, the Applicants made no amendments that necessitated the new ground of rejection.

In rejecting claims 6, 29 and 40, the Examiner has introduced a new ground of rejection – Crow et al. (USPN 6,895,418, “Crow”). Applicants respectfully submit that the new ground of rejection was not based on information submitted in an information statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p). Further, the new ground of rejection was also not necessitated by Applicants’ amendment of the claims.

The Examiner has used Crow to teach a limitation of “setting a flag in an inode for the file that indicates blocks have been reserved for the file,” as recited in claims 6, 29 and 40. (Office Action dated 09/20/06, p. 7, ¶8). Applicants respectfully submit that the limitation of “setting a flag in an inode for the file that indicates blocks have been reserved for the file,” was

present in the claims 6, 29 and 40 prior to the Applicants' response dated 07/17/06 and was not amended in that response. Therefore, the Applicants made no amendments that necessitated the new ground of rejection.

For these reasons, Applicants respectfully submit that the finality of the office action dated 09/20/06 is premature. Therefore, Applicants respectfully request the Examiner to withdraw the finality of the rejection.

Claim Rejections under 35 U.S.C. §103(a)

In addition to maintaining that the finality of the office action dated 09/20/06 is premature, Applicants further submit that claims 1-11 and 22-45 are patentable over the cited combinations of references.

Claims 1, 2, 4, 7, 8, 10, 24, 25, 27, 30, 31, 33, 35, 36, 38, 41, 42 and 44

Claims 1, 2, 4, 7, 8, 10, 24, 25, 27, 30, 31, 33, 35, 36, 38, 41, 42 and 44 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nazari et al. (USPN 6,516,344, "Nazari") in view of Pothapragada and further in view of Hamilton et al. (USPN 6,701,420, "Hamilton").

Independent claims 1, 24, and 35 recite computing a first number of blocks needed to accommodate the file size, and subtracting from the first number of blocks a second number of blocks already allocated for the file and a third number of delayed allocated blocks for the file to obtain a fourth number of unallocated blocks to be reserved to accommodate the file size.

With respect to these limitations, the Examiner states:

Nazari teaches ... computing a first number of blocks (*i.e. block-size units, col. 5, lines 19-32*) needed to accommodate the file size (*i.e. the system determines if there is sufficient space allocated for file within storage device to accommodate the additional data to the file, col. 5, lines 56-65*) (*col. 5, line 66 to col. 6, line 59*); a second number of

blocks already allocated for the file (*i.e. a file length value stored locally in client 102, col. 5, line 66 to col. 6, line 10*); a fourth number of unallocated blocks to be reserved to accommodate the file size (*i.e. If sufficient space has not been allocated to accommodate the additional data on the remote file server, col. 1, line 63 to col. 2, line 16*).

(Office Action dated 03/16/06, p. 4, ¶5).

In the portions cited by the Examiner and elsewhere, Nazari discloses that unallocated regions of a file become allocated as regions of the file are written to:

FIG. 3 illustrates a file 300 containing unallocated regions 302 in accordance with an embodiment of the present invention. When file 300 is initially created for random accesses, none of the regions of file 300 are allocated. As regions of file 300 are written to during execution of application 203, regions of file 300 become allocated (see shaded portions), and the other regions remain unallocated. Note that a file may include a number of contiguous unallocated regions separated by allocated regions.

(Nazari, col. 4, line 61 to col. 5, line 3).

Nazari further discloses:

The system operates by receiving a request at a local computer system for an access to a file residing in storage on the remote server. If the request is a read operation, the system determines whether the read operation is directed to a region of the file that is presently unallocated in the storage on the remote server.

(Nazari, col. 1, line 66 to col. 2, line 5).

If the read operation is directed to a region of file 300 that is presently unallocated, the system creates a block of null values in the local cache (step 416) and marks the block of null values as read only (step 418). Next, the system returns the result of the read operation to the requestor (step 420).

(Nazari, col. 5, lines 29-32).

In the case of a write operation, the system writes data to the local cache for file 300 (step 427). In doing so, the system determines if the write operation is directed to an unallocated region of file 300 (step 428). If so, client 102 sends a request to server 112 to allocate storage for the write operation (step 430). Allocating storage for the write operation ensures that storage device 130 contains enough storage for the write operation. Next, the system writes data to the local cache for file 300 and eventually copies the data back to storage device 130 through server 112 in a lazy manner (step 434).

(Nazari, col. 5, line 65 to col. 6, line 7).

Thus, Nazari discloses allocating storage space for the write operation. Nazari is silent about and does not teach or suggest “a second number of blocks already allocated for the file”, and “a third number of delayed allocated blocks for the file”, as recited in claim 1.

Applicants respectfully submit that neither Pothapragada nor Hamilton teaches or suggests “a second number of blocks already allocated for the file”, as recited in claims 1, 24, and 35. Pothapragada discloses adapting a file system to the characteristics of the access and storage methodology of the user’s data. (Pothapragada, col. 3, lines 10-12). Hamilton discloses acquiring a predetermined size memory block from system memory and allocating the acquired memory for storage. (Hamilton, Abstract). Neither Pothapragada nor Hamilton teach or suggest “a second number of blocks already allocated for the file”, as recited.

The Examiner relies on Pothapragada to teach the limitation of “a third number of delayed allocated blocks for the file,” as recited in claims 1, 24, and 35. Pothapragada discloses that a file system may use delayed block allocation when providing random access. (Pothapragada, col. 2, line 65 to col. 3, line 4). Applicants respectfully submit that the Examiner has not adequately shown a motivation required to combine Nazari with Pothapragada to teach this limitation. The law requires to prevent the use of hindsight an examiner "must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.” In re Rouffet, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998.) (emphasis added) (Also see MPEP 2142 as well as MPEP 2145). The Examiner states:

It would have been obvious to one of ordinary skill in the art having the teaching of Nazari and Pothapragada at the time the invention was made to modify the system of Nazari and Pothapragada to include the above limitations as taught by Pothapragada. One of ordinary skill in the art would be motivated to make this combination in order to

access speed of data in servers in view of Pothapragada, as doing so would give the added benefit of allowing a user to tune the operation of the file system as well as get intelligent information from the file system on his data characteristics as taught by Pothapragada (col. 3, lines 8-24).

(Office Action dated 09/20/06, p. 4, ¶4) (emphasis added).

Applicants respectfully submit that these alleged benefits and other benefits that are cited by the Examiner as the motivation for combining Nazari and Pothapragada would not be obtained by the proposed combination. Pothapragada discloses that the cited advantages are provided by a computer system that includes a means for characterizing data on data storage devices managed by a file system and means for tuning the file system by selecting one or more options in an operating system kernel and a mount table. (Pothapragada, col. 3, lines 49-61). In fact, Pothapragada discloses that the system that utilizes delayed block allocation is undesirable, because the system “make[s] certain assumptions about the way the user data is characterized and classify data as sequential, random or meta-data and process data requests in accordance with the assumptions.” (Pothapragada, col. 3, lines 4-7). Pothapragada discloses a file system that overcomes the undesirable aspects of a system that utilizes delayed block allocation by providing a file system that can be adapted to the characteristics of the access and storage methodology of the user’s data and that provides the advantages cited by the Examiner. (Pothapragada, col. 3, lines 10-12).

Thus, the motivation stated by the Examiner to modify the teachings of Nazari with Pothapragada’s disclosure is not provided by the prior art. The Examiner appears to have merely taken a desired end result, as recited in Applicants’ claims, and stated that a combination of Schmuck and Nazari achieves this end result. Such a position is impermissible hindsight. Applicants understand that “[a]ny judgment on obviousness is in a sense necessarily a reconstruction based on hindsight reasoning,” and is appropriate only when it “does not include

knowledge gleaned only from applicant's disclosure.” *In re McLaughlin*, 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971). For this additional reason, therefore, the rejection is improper and should be withdrawn.

Thus, Applicants respectfully submit that the Examiner withdraw the rejection of independent claims 1, 24 and 35 and associated dependent claims 2, 4, 7, 8, 10, 25, 27, 30, 31, 33, 36, 38, 41, 42 and 44 under 35 U.S.C. §103(a).

Claims 3, 26 and 37

Claims 3, 26 and 37 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nazari in view of Pothapragada and Hamilton and further in view of Keller.

Keller discloses implementing locks in a distributed processing system. (Keller, Abstract). Keller is silent about and does not teach or suggest “a second number of blocks already allocated for the file”, and “a third number of delayed allocated blocks for the file,” as claimed in independent claims 1, 24, and 35.

As none of Nazari, Pothapragada, Hamilton and Keller teaches each and every limitation of independent claims 1, 24, and 35, the combination cannot be interpreted to disclose the claimed element. Therefore, the combination cannot render obvious Applicants’ invention as claimed in associated dependent claims 3, 26 and 37, and Applicants respectfully request the withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) over the combination.

Claims 5, 28 and 39

Claims 5, 28 and 39 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nazari, in view of Pothapragada and Hamilton and further in view of Bereznyi.

Bereznyi discloses a cache system that allocates memory by defining a series of small blocks that are uniform in size. (Bereznyi, Abstract). Bereznyi is silent about and does not teach or suggest “a second number of blocks already allocated for the file”, and “a third number of delayed allocated blocks for the file,” as claimed in independent claims 1, 24, and 35.

As none of Nazari, Pothapragada, Hamilton and Bereznyi teaches each and every limitation of independent claims 1, 24, and 35, the combination cannot be interpreted to disclose the claimed element. Therefore, the combination cannot render obvious Applicants’ invention as claimed in associated dependent claims 5, 28 and 39, and Applicants respectfully request the withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) over the combination.

Claims 6, 29 and 40

Claims 6, 29 and 40 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nazari, in view of Pothapragada and Hamilton and further in view of Crow.

Crow discloses a memory storage device having a file storage operating system that uses inodes to access file segments. (Crow, Abstract). Crow is silent about and does not teach or suggest “a second number of blocks already allocated for the file”, and “a third number of delayed allocated blocks for the file,” as claimed in independent claims 1, 24, and 35.

As none of Nazari, Pothapragada, Hamilton and Crow teaches each and every limitation of independent claims 1, 24, and 35, the combination cannot be interpreted to disclose the claimed element. Therefore, the combination cannot render obvious Applicants’ invention as

claimed in associated dependent claims 6, 29 and 40, and Applicants respectfully request the withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) over the combination.

Claims 9, 32 and 43

Claims 9, 32 and 43 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nazari, in view of Pothapragada and Hamilton and further in view of Schmuck et al. (USPN 5,956,734, “Schmuck”).

Schmuck discloses a parallel file system with a quota check utility. (Schmuck, Abstract). Schmuck is silent about and does not teach or suggest “a second number of blocks already allocated for the file”, and “a third number of delayed allocated blocks for the file,” as claimed in independent claims 1, 24, and 35.

As none of Nazari, Pothapragada, Hamilton and Schmuck teaches each and every limitation of independent claims 1, 24, and 35, the combination cannot be interpreted to disclose the claimed element. Therefore, the combination cannot render obvious Applicants’ invention as claimed in associated dependent claims 9, 32 and 43, and Applicants respectfully request the withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) over the combination.

Claims 11, 22, 23, 34 and 45

Claims 11, 22, 23, 34 and 45 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nazari, in view of Pothapragada and Hamilton and further in view of Bonwick (USPN 6,725,244).

Bonwick discloses allocating file descriptors by storing them in a tree-like data structure. (Bonwick, Abstract). Bonwick is silent about and does not teach or suggest “a second number of

blocks already allocated for the file”, and “a third number of delayed allocated blocks for the file,” as claimed in independent claims 1, 24, and 35.

As none of Nazari, Pothapragada, Hamilton and Bonwick teaches each and every limitation of independent claims 1, 24, and 35, the combination cannot be interpreted to disclose the claimed element. Therefore, the combination cannot render obvious Applicants’ invention as claimed in associated dependent claims 11, 22, 23, 34 and 45, and Applicants respectfully request the withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) over the combination.

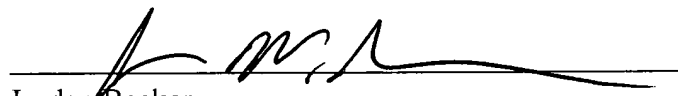
Conclusion

Applicants respectfully submit that in view of the discussion set forth herein, the applicable rejections have been overcome. Accordingly, the present claims should be found to be in condition for allowance.

If a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Jordan Becker at (408) 720-8300. If there are any additional charges/credits, please charge/credit our deposit account no. 02-2666.

Respectfully submitted,
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Dated: November 16, 2006


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